

Claims:

1. A printing system comprising

storage means in a client computer for storing a client service item file which
5 comprises a set of user selectable service items, each service item comprising a set of
printing attributes; wherein said client service item file is updated in accordance to
communication with an external apparatus;

a client computer user interface by means of which a user can select a particular
one of said service items having a particular set of printing attributes; and

10 a client computer print process driver adapted to process a print job according to
said particular set of printing attributes.

2. A printing system according to claim 1, wherein said external apparatus
comprises a print application adapted to:

15 update the client service item file on the basis of a server service item file
associated with a plurality of printers each printer supporting printing attributes of at least
one of said user selectable service items; and

print the processed print job on a specific printer supporting the particular set of
printing attributes of the particular selected service item.

3. A printing system according to either one of claims 1 and 2, wherein said
communication is over a network comprising one of:

a dedicated connection;

a local area network; and

25 a wide area network.

4. A printing system according to claim 1, wherein said user interface is conformed
to said selected service item dependent upon said user selection.

30 5. A printing system according to claim 4, wherein said external apparatus further
comprises:

a server having storage means for storing the server service item file, wherein
said server service item file is updated dependent upon a change to the plurality of
printers, an update label being assigned to the updated server service item file.

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6. ~~A printing system according to claim 5, wherein said update label is a time stamp indicative of a time of updating the server service item file.~~

7. A printing system according to claim 6, wherein:

5 the updating of the client service item file is done to conform the client service item file to the server service item file; and

said updating is performed if a time stamp associated with the client service item file is older than the time stamp of the server service item file.

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10 8. ~~A printing system according to claim 1, wherein the print process driver comprises:~~

a file data conversion process adapted to convert the print job using the particular set of printing attributes thereby producing print file data matched to the specific printer.

15 9. A printing system according to claim 7, further comprising:

icon storage means in the client computer, for storing, in a client icon file, icons associated with the user selectable service items in the client service item file;

icon storage means in the server, for storing, in a server icon file, icons associated with the user selectable service items in the server service item file, wherein said server icon file is updated dependent upon the change to the plurality of printers; and wherein updating of the client icon file is done to conform the client icon file to the server icon file; and wherein

20 said client icon file updating is performed if the time stamp associated with the client service item file is older than the time stamp of the server service item file.

10. ~~A printing system according to claim 8, wherein the conversion process comprises conversion of the print job, being in a first page description language, to the print file data, being in a second page description language.~~

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30 11. A printing system according to claim 10, wherein the first page description language is Windows® GDI® and the second page description language is Postscript®.

12. A printing system according to claim 4, further comprising:

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~~print job storage means for storing the processed print job on the client computer in anticipation of said printing by the print application.~~

13. A printing system according to claim 1, wherein the printing attributes relate to
5 at least one of physical attributes of a printer, and generic attributes of the printer.

14. A printing system according to claim 1, wherein the printing attributes comprise at least one of:

- 8002*
- a service item name;
 - 10 an associated icon name;
 - a page layout attribute;
 - a single sided attribute;
 - a two-sided attribute;
 - a page size attribute;
 - 15 a print resolution attribute;
 - a paper type attribute;
 - an ink type attribute;
 - a page orientation attribute;
 - a color definition;
 - 20 a printed medium definition;
 - a paper dimension; and
 - at least one of top, bottom, left and right margin attributes.

15. A printing system according to claim 1, wherein the particular service item is
25 associated with an explanatory graphical icon.

16. A printing system according to claim 5 wherein the client service item file updating is performed upon said communication being established between the print application, the server, and the print process driver.

17. A printing system according to claim 5, wherein the update label is a version number, and wherein the client service item file updating is performed dependent upon a version number of the server service item file.

18. A print process driver adapted to process a print job according to a particular set of printing attributes, said attributes characterising a particular service item selected by a user from a client service item file which comprises a set of user selectable service items, each service item comprising a set of printing attributes, said client service item file being
5 stored in a storage means in a client computer, wherein said client service item file is updated in accordance to communication with an external apparatus.

19. A print process driver according to claim 18, wherein the processing of the print job comprises conversion of the print job, being in a first page description language, to
10 print file data, being in a second page description language.

20. A print process driver according to claim 19, wherein the first page description language is Windows® GDI® and the second page description language is Postscript®.

21. A print process driver according to claim 18, wherein the printing attributes relate to at least one of physical attributes of a printer, and generic attributes of the printer..

22. A print process driver according to claim 18, wherein the printing attributes
20 comprise at least one of:

- a service item name;
- an associated icon name;
- a page layout attribute;
- a single sided attribute;
- 25 a two-sided attribute;
- a page size attribute;
- a print resolution attribute;
- a paper type attribute;
- an ink type attribute;
- 30 a page orientation attribute;
- a color definition;
- a printed medium definition;
- a paper dimension; and
- at least one of top, bottom, left and right margin attributes.

23. A print process driver according to claim 18, wherein the particular service item is associated with an explanatory graphical representation.

24. A print process driver according to claim 18, wherein the client service item file updating is performed upon said communication being established between a print application, a server, and the print process driver.

25. A method of printing a print job comprising steps of:
storing, in a storage means in a client computer, a client service item file which comprises a set of user selectable service items, each service item comprising a set of printing attributes;
updating said client service item file in accordance to communication with an external apparatus;
selecting, by a user by means of a client computer user interface a particular one of said service items having a particular set of printing attributes; and
processing, by a client computer print process driver a print job according to said particular set of printing attributes.

26. A method according to claim 25, comprising further steps of:
updating the client service item file, by a print application in the external apparatus, on the basis of a server service item file associated with a plurality of printers each printer supporting printing attributes of at least one of said user selectable service items; and
printing the processed print job on a specific printer supporting the particular set of printing attributes of the particular selected service item.

27. A method according to either one of claims 25 and 26, wherein said communication is over a network comprising one of:
a dedicated connection;
a local area network; and
a wide area network.

28. A method according to claim 25, comprising a further step of:
conforming said user interface to said selected service item dependent upon said user selection.

29. A method according to claim 28, comprising further steps of:
5 updating said server service item file dependent upon a change to the plurality of printers; and
assigning an update label to the updated server service item file.

30. ~~A method according to claim 29, wherein said update label is a time stamp indicative of a time of updating the server service item file.~~

31. A method according to claim 30, wherein the updating of the client service item file comprises a step of:
time stamp updating the client service item file with respect to the server service
15 item file if a time stamp associated with the client service item file is older than the time stamp of the server service item file.

32. ~~A method according to claim 25, wherein the processing step comprises sub-steps of:~~
converting the print job using the particular set of printing attributes; and
producing print file data matched to the specific printer.

33. A method according to claim 31, comprising further steps of:
storing, in a client icon file in icon storage means in the client computer, icons
25 associated with the user selectable service items in the client service item file;
storing, in a server icon file in an icon storage means in the server, icons associated with the user selectable service items in the server service item file;
updating said server icon file dependent upon the change to the plurality of printers; and
30 updating the client icon file to conform the client icon file to the server icon file if the time stamp associated with the client service item file is older than the time stamp of the server service item file.

34. ~~A method according to claim 32, wherein the converting step comprises a step~~

~~page description converting the print job, being in a first page description language, to print file data, being in a second page description language.~~

35. A method according to claim 34, wherein the first page description language is Windows® GDI® and the second page description language is Postscript®.

36. A method according to claim 28 comprising, prior to the printing step, a further step of:

storing the processed print job on the client computer.

37. A method according to claim 25, comprising a further step of:
associating the particular service item with an explanatory graphical icon.

38. A method according to claim 25 comprising a further step of:
updating the client service item file dependent upon said communication being established between a print application, a server, and the print process driver.

39. A computer readable memory medium for storing a program for apparatus which prints a print job, said program comprising:

code for a storing step for storing, in a storage means in a client computer, a client service item file which comprises a set of user selectable service items, each service item comprising a set of printing attributes;

code for an updating step for updating said client service item file in accordance to communication with an external apparatus;

code for a selecting step for selecting, by a user by means of a client computer user interface a particular one of said service items having a particular set of printing attributes; and

code for a processing step for processing, by a client computer print process driver a print job according to said particular set of printing attributes.

40. A computer readable memory medium according to claim 39, said program further comprising:

code for an updating step for updating the client service item file, by a print application in the external apparatus, on the basis of a server service item file associated

~~with a plurality of printers each printer supporting printing attributes of at least one of said user selectable service items; and~~

code for a printing step for printing the processed print job on a specific printer supporting the particular set of printing attributes of the particular selected service item.

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41. A computer readable memory medium according to either one of claims 39 and 40, wherein said communication is over a network comprising one of:

- a dedicated connection;
- a local area network; and
- a wide area network.

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42. A computer readable memory medium according to claim 39, said program further comprising:

code for a conforming step for conforming said user interface to said selected service item dependent upon said user selection.

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43. A computer readable memory medium according to claim 42, said program further comprising:

- code for an updating step for updating said server service item file dependent upon a change to the plurality of printers; and
- code for an assigning step for assigning an update label to the updated server service item file.

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~~44. A computer readable memory medium according to claim 43, wherein said update label is a time stamp indicative of a time of updating the server service item file.~~

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45. A computer readable memory medium according to claim 44, wherein the code for the updating of the client service item file comprises:

code for a time stamp updating step for time stamp updating the client service item file with respect to the server service item file if a time stamp associated with the client service item file is older than the time stamp of the server service item file.

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~~46. A computer readable memory medium according to claim 39, wherein the code for the processing step comprises:~~

~~code for a converting step for converting the print job using the particular set of printing attributes; and~~
~~code for a producing step for producing print file data matched to the specific printer.~~

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47. A computer readable memory medium according to claim 25, further comprising:

code for a first storing step for storing, in a client icon file in icon storage means in the client computer, icons associated with the user selectable service items in the client service item file;

code for a second storing step for storing, in a server icon file in an icon storage means in the server, icons associated with the user selectable service items in the server service item file;

code for a first updating step for updating said server icon file dependent upon the change to the plurality of printers; and

code for a second updating step for updating the client icon file to conform the client icon file to the server icon file if the time stamp associated with the client service item file is older than the time stamp of the server service item file.

48. ~~A computer readable memory medium according to claim 46, wherein the code for the converting step comprises:~~

code for a page description converting step for page description converting the print job, being in a first page description language, to print file data, being in a second page description language.

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49. A computer readable memory medium according to claim 48, wherein the first page description language is Windows® GDI® and the second page description language is Postscript®.

50. A computer readable memory medium according to claim 42 comprising, prior to the code for the printing step:

code for a storing step for storing the processed print job on the client computer.

51. A computer readable memory medium according to claim 39, further comprising:

~~code for an associating step for associating the particular service item with an explanatory graphical icon.~~

52. A computer readable memory medium according to claim 39 further comprising:
code for an updating step for updating the client service item file dependent upon
said communication being established between a print application, a server, and the print
process driver.